Part 150 Noise Compatibility Study

Airport noise is an increasingly important issue facing airports and communities across the nation. Congress enacted the Aviation Safety and Noise Abatement Act of 1979 to address airport noise concerns. This Act required the Federal Aviation Administration to adopt regulations establishing a single system of measuring aircraft noise and determining the exposure of individuals to noise in the vicinity of airports. Part 150 of the Federal Aviation Regulations on Airport Noise Compatibility Planning was adopted in 1981 to meet these requirements.

Ted Stevens Anchorage International Airport (ANC) completed its first Part 150 Noise Compatibility Study in 1987. Because airport operations have changed considerably since 1987, ANC began a Part 150 Noise Compatibility Study Update in April 1995. This Study Update will be complete in early 1999.

What is Part 150?

Part 150 of the Federal Aviation Regulations describes the federal guidelines for completing and implementing a Noise Compatibility Study. It contains the FAA approved requirements for determining noise levels in areas near the airport. It also outlines the FAA's responsibilities in review of proposed Noise Compatability Programs.

The Part 150 study process has two steps: 1) establishment of Noise Exposure Maps, which identify the levels of airport noise in areas around the airport, and 2) development of a Noise Compatibility Program designed to reduce the number of people and/or incompatible land uses within the airport's noise contours. These two steps are discussed in more detail later in this fact sheet.

Airports are not required to complete Part 150 studies, but there are financial incentives for doing so. Federal funds are available for completing Part 150 studies and for implementing measures adopted in the Noise Compatibility Program. The Federal Aviation Administration (FAA) has provided $43 million for Part 150 planning efforts since 1979 and over $2 billion for implementation of measures identified in FAA-approved Part 150 Noise Compatibility Programs.

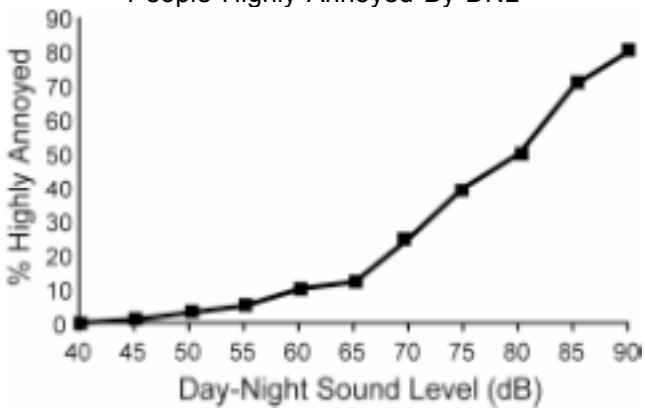
Noise Exposure Maps

FAA's Part 150 regulations identify the requirements for developing Noise Exposure Maps (NEMs) and the information that must be included in them. NEMs include maps of the noise contours around the Airport, as well as information on non-compatible land uses and the population located within those contours. Additional information is required on flight tracks and flight operations, airport and runway layouts, and other relevant information.

FAA requires the Airport's noise contour maps to depict the average annual day-night sound level (DNL) in areas around the airport. The DNL represents the cumulative exposure of individuals to airport noise and is based upon the type of aircraft operated, the number of operations, the runways used, the aircraft flight tracks, and the timing of operations. Since studies show that people are more sensitive to noise at night, nighttime operations are given a penalty and weighted as being "louder" than a similar operation during the day. Since DNL contours represent annual average conditions, noise levels will vary considerably from the DNL level during the Airport's busy periods and slow periods.

Many studies have been completed on how noise, and aircraft noise in particular, affect people. These studies have shown that, although noise sensitivity varies greatly from person to person, certain levels of noise are found to be very aggravating to the majority of people. The DNL measurement has been found to correlate closely with community annoyance from noise sources. The figure below illustrates how the percentage of people who are "highly annoyed" increases significantly as average noise levels increase above 65 DNL.

People Highly Annoyed By DNL



NEMs must show noise contours for 65, 70, and 75 DNL and must identify noncompatible land uses within these contours for both existing conditions and for a 5 year forecast condition. Non-compatible land uses generally include residences, schools, churches, health care facilities, and other uses. National studies have indicated that these types of land use are more likely to be sensitive to high noise levels. As shown in the figure above, less than 15 percent of the population is expected to be highly annoyed by noise levels of 65 DNL or less; therefore, all land uses are assumed to be compatible with DNLs of less than 65.

ANC prepared a Revised Noise Exposure Map document illustrating the noise contours for 1997 and 2002. The Revised Noise Exposure Map document was submitted to FAA for review and acceptance in November 1998. FAA acceptance of the Noise Exposure Map was received in January 1999.

Noise Compatibility Program

The Noise Compatibility Program (NCP) includes all the measures that are recommended for reducing noise impacts and incompatible land uses within the Airport's noise contours.

There are two main types of measures included in NCPs: operational or noise abatement measures and land use measures.

Operational noise abatement measures generally include changes in Airport and/or Air Traffic Control procedures intended to reduce noise exposure to the surrounding community. Operational measures are generally implemented by the Airport, the FAA, or Airlines.

Land use measures include changes in land use or land use regulations to reduce construction or operation of incompatible uses within the Airport's noise contours. Since land use outside Airport boundaries are usually not under an Airport's control, the Airport must work with local government to implement land use measures.

Measures included in the NCP can also be classified as either "preventative" or "remedial". Preventative measures are prevent or reduce the potential for development of new noncompatible uses within the Airport's noise contours, such as zoning restrictions. Remedial measures, such as soundproofing, are used to address existing noncompatible uses, or development that has already occurred.

Recent changes in FAA's Part 150 regulations limit the use of federal noise mitigation funds to remediate new land uses, constructed after October 1, 1998 within Airport noise contours. These changes are designed to increase the incentive for preventing development of new incompatible land uses. As with many other issues, prevention is more cost effective than remediation.

Revised AIA Noise Compatibility Program: The ANC Revised NCP is based on four years of analysis and meetings with a Part 150 Technical Advisory Committee (TAC). The measures in the ANC Revised Noise Compatibility Program are listed on the following page.

How does the FAA review process work?

Congress has given FAA the responsibility to approve NCP measures if they can meet the following criteria.

· They do not create on undue burden on interstate or foreign commerce.
· They are consistent with the goal of reducing existing noncompatible land uses and preventing or reducing the probability of the establishment of additional noncompatible land uses.
· They are not unjustly discriminatory.
· They do not adversely affect the safe and efficient use of airspace.
· They meet both local needs and the needs of the national air transportation system, considering tradeoffs between the economic benefits derived from the airport and the noise impact.

FAA does not have to approve the NCP in its entirety, but can individually approve some measures and not approve others. Once the NCP is approved, the Airport can apply for federal noise mitigation funds to implement approved measures. Federal funds for mitigation are not guaranteed, however. Each airport must compete with other airports for the noise mitigation funds available.

Public Input into the Process

Part 150 requires airport operators to involve interested parties in development of a Part 150 Noise Compatibility Study. Interested parties include: FAA, local governments, aviation interests and aircraft operators, and representatives of surrounding communities.

The Airport established a Part 150 Technical Advisory Committee to provide input into the planning process and allow for an exchange of ideas on airport noise, noise impacts, and noise control. The TAC was made up of representatives from 10 Anchorage Community Councils, the Chamber of Commerce, the Anchorage Economic Development Corporation, aviation interests, the Municipality of Anchorage, and the FAA.

The Part 150 TAC met ten times over a four year period, providing valuable input into the study. TAC members reviewed noise measurement data collected, suggested noise abatement ideas for evaluation, reviewed analyses on various noise abatement and land use measures, and helped identify preferred measures to be included in ANC's NCP. Each TAC meeting was advertised three times in the Anchorage Daily News in the weeks prior to the meeting.

To ensure that Anchorage residents living within the noise contours are aware of the measures in the Draft Revised NCP, the Airport initiated an intensive public information program, including direct mailings within the noise contours and a newspaper insert on the Part 150 Study Update that was distributed with the Anchorage Daily News on Monday, January 18, 1999.

AIA also held a final public hearing and workshop on the Draft Revised NCP on February 9, 1999 in the WestCoast International Inn. ANC's public information campaign, conducted in January, resulted in record attendance at the public hearing and workshop. Public comments on the Draft Revised NCP were received verbally and in writing at this hearing, as well as in the mail over the review period. These comments were addressed prior to submittal of the document to FAA in June 1999. FAA is expected to issue a decision on the NCP by January 4, 2000.

More information on the Airport's Part 150 Study Update or other airport noise issues is available by calling the Airport at 266-2526.

ANC Noise Compatability Program

Recommended Measure Summary

Noise Abatement Measures

Enhance Noise Abatement Departure Procedures	Promote consistent use of identified noise abatement departure profiles for departures to the east and south.

Land Use Measures

Noise Overlay Zone	Establish a Noise Overlay Zone district based on the Airport's noise contours. Apply special requirements and restrictions to lands within this zone to minimize additional development of non-compatible land uses.
Fair Disclosure Policy	Require disclosure of airport noise impacts in residential sales documents.
Land Banking	Public acquisition of vacant residentially zoned properties within the 65 DNL noise contour to prevent construction of additional non-compatibile uses.
Soundproofing	Sound insulation of residences and other noise sensitive uses in return for avigation easements.
Sound Buffers/Barriers	Use of sound barriers, berms, or open space to reduce aircraft-related noise impacts on adjacent neighborhoods.
Compatible Use Zoning	Zoning code modifications to minimize noise sensitive uses within the contours; restrict rezonings for higher densities, mobile homes, and camper parks.
Building Code Revisions	Provisions in the building code to require houses built within the contours to incorporate sound attenuation measures during construction.
Noise Levels on Plats	Notes on subdivision plats within the contours to provide notification of noise levels and require sound attenuation measures to be incorporated during construction.
Comprehensive Planning	Include ANC noise contours and compatibility guidelines into the Comprehensive Plan to ensure compatible land used within the contours.
Planning & Zoning Commission Review	Adopt noise compatibiltiy criteria and guidelines for evaluating proposed development proposals within the noise contours.
Public Land Development Policy	Adoption of a policy requiring development of public lands within the noise contours to meet the noise compatibility criteria and guidelines.